

# Promoting Clear Identification of Sepsis, Severe Sepsis & Septic Shock

ICD-9-CM Coordination and  
Maintenance Committee Meeting

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December 6<sup>th</sup>, 2002

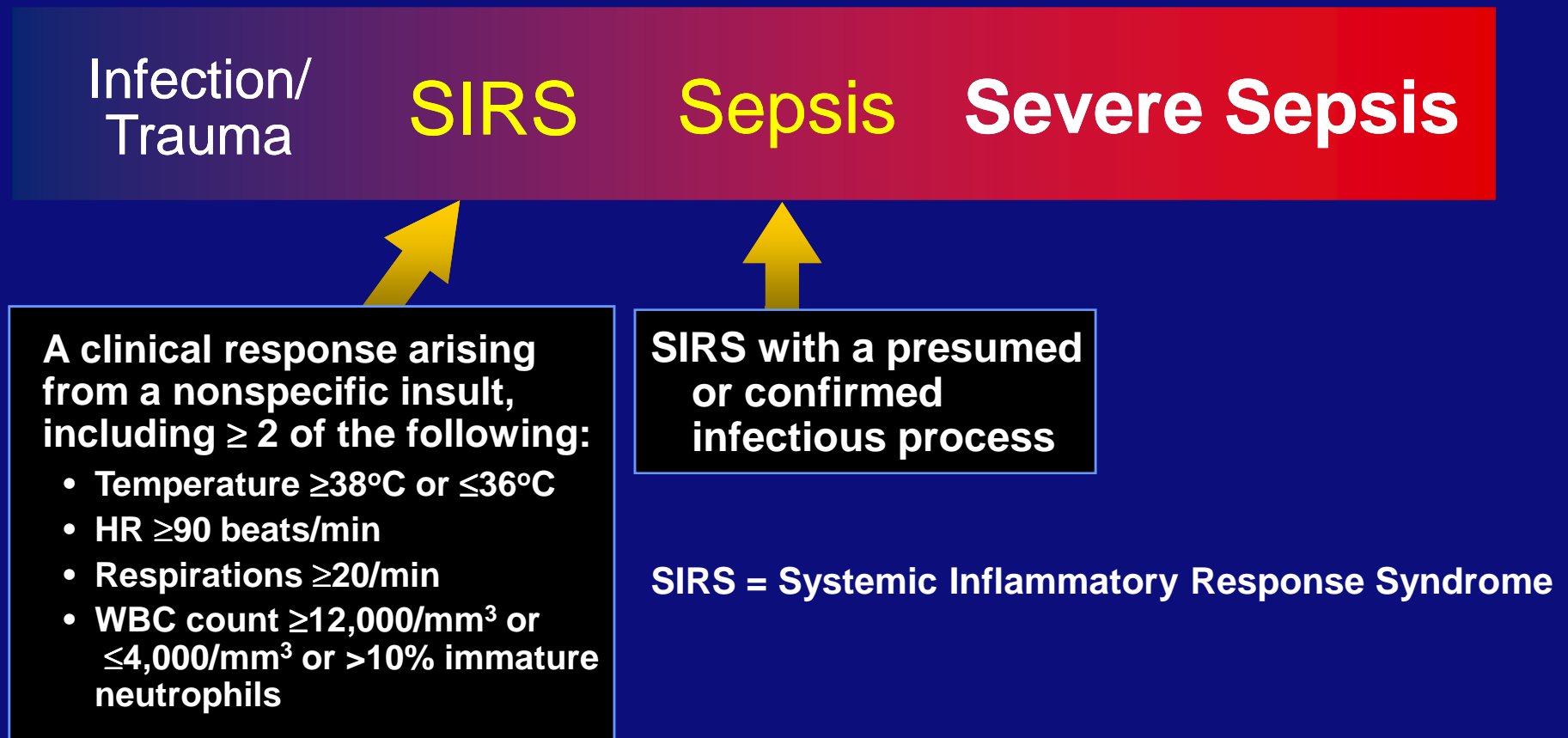
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# Overview

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- Differentiation between Septic Shock in relation to other conditions in current code, Sepsis, and Severe Sepsis
- Disease Epidemiology, Incidence and Mortality
- Inadequacy of Current Diagnostic Codes
- Proposed Modifications and Clarification
- Discussion

# Sepsis: Defining a Disease Continuum



# Sepsis: Defining a Disease Continuum

Infection/  
Trauma

SIRS

Sepsis

**Severe Sepsis**

Sepsis with  $\geq 1$  sign of organ failure

Cardiovascular (refractory hypotension)

Renal

Respiratory

Hepatic

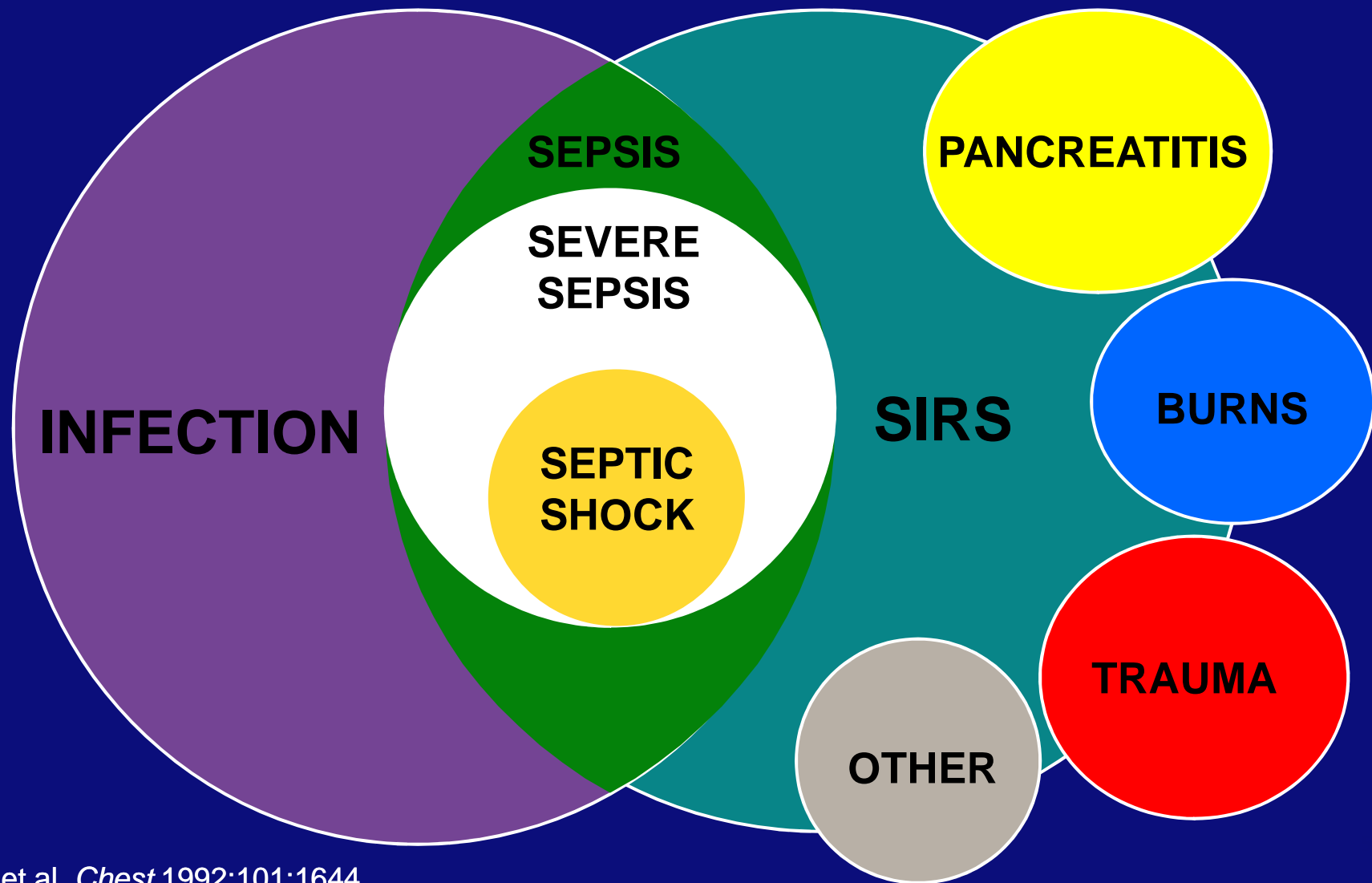
Hematologic

CNS

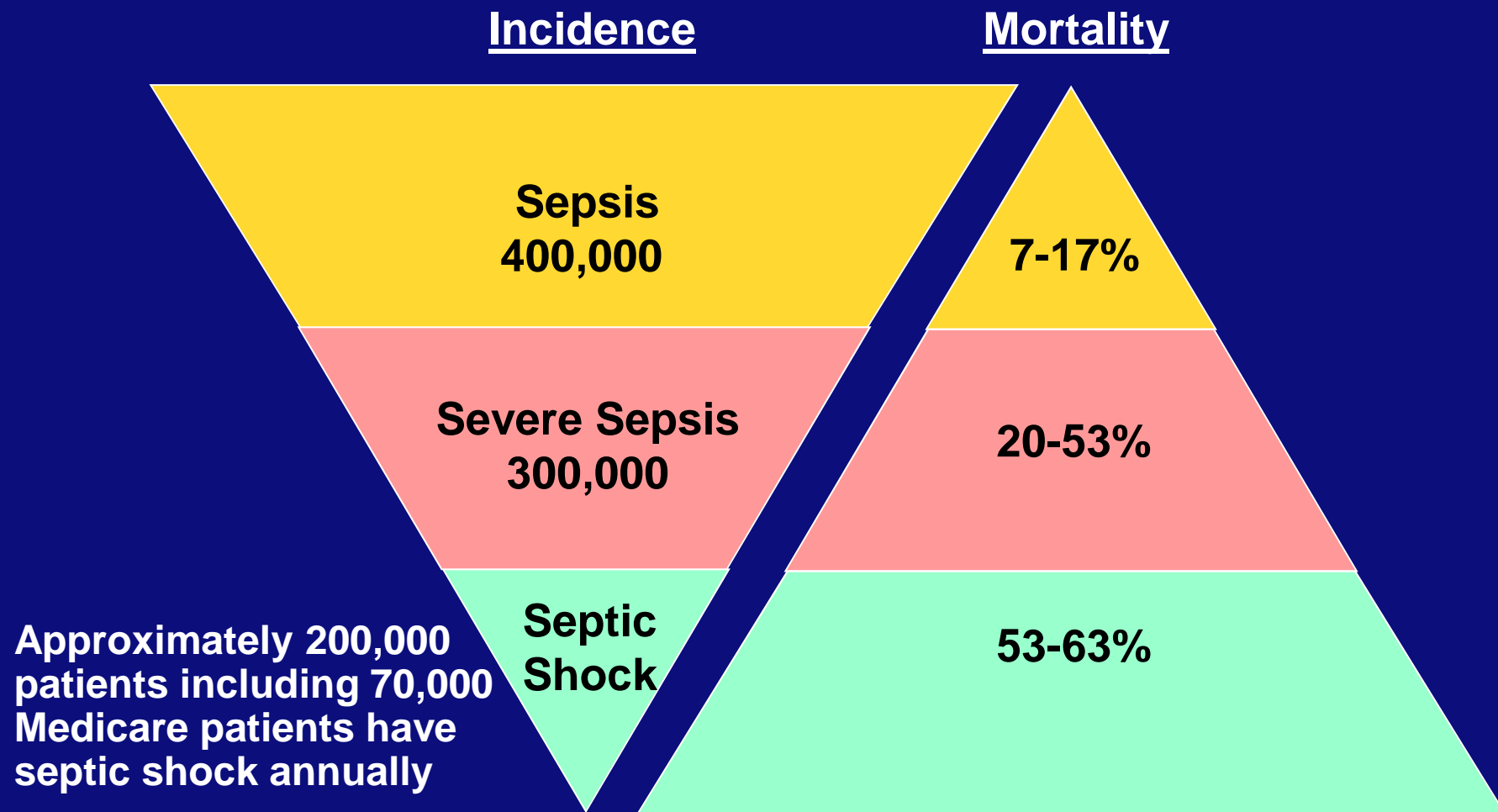
Metabolic acidosis

**Shock**

# Relationship Of Infection, SIRS, Sepsis Severe Sepsis and Septic Shock



# Mortality Increases in Septic Shock Patients



# Definitions & Current Convention

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- **Sepsis** (currently included in 038.x)  
Systemic inflammatory response to known or suspected infection
- **Severe Sepsis** (995.92 + 038.x)  
SIRS associated with organ dysfunction (failure), hypoperfusion, and perfusion abnormalities

# Definitions Continued

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- **Septic shock** (currently included in 785.59)

A subset of severe sepsis, where patients experience **combined decreased systemic vascular resistance and the presence of reduced myocardial performance**

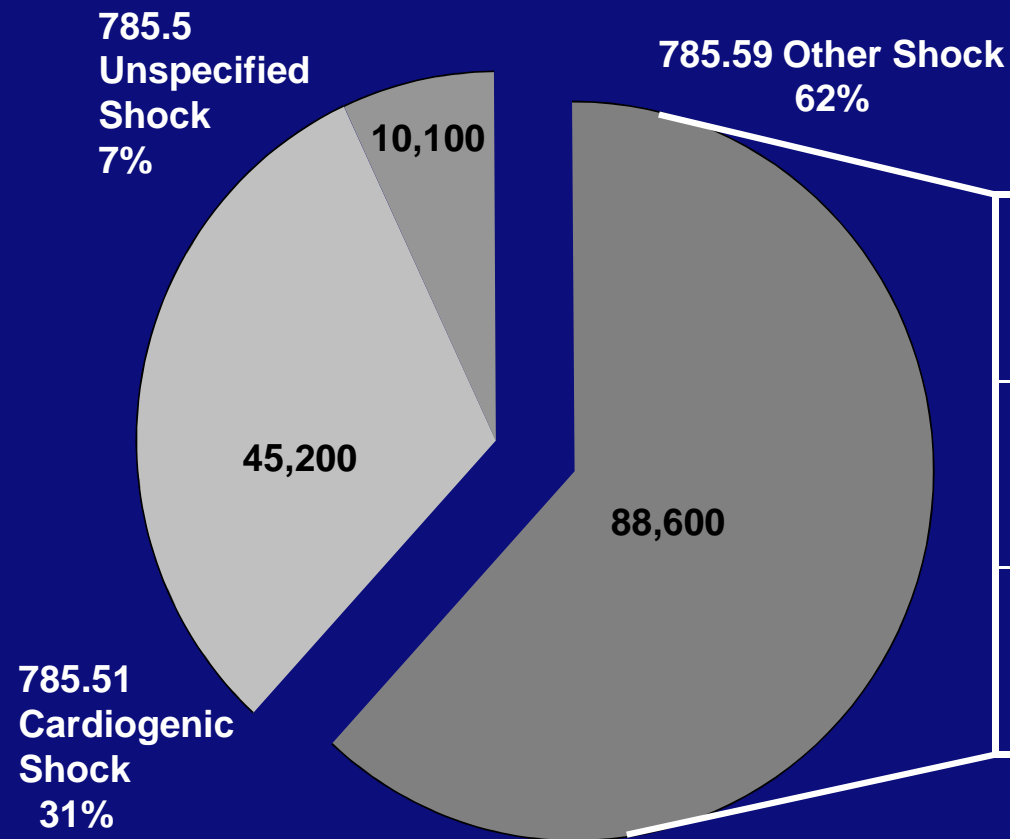


# Inadequacy of Existing Codes

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- Septic shock is bundled with non-related diagnoses for non-traumatic shock in 785.59 including:
  - Extracardiac obstructive shock
    - Pericardial tamponade
    - Constrictive pericarditis
    - Pulmonary embolism
  - Oligemic shock
    - Dehydration
    - Hemorrhage

# Septic Shock is Unique within 785.59



## 785.59 Details

	Population	Mortality	Length Of Stay	Cost
With infection *	70,900	51%	17.1	\$30,300
Without infection	17,700	52%	8.9	\$17,400

\* Represents Septic Shock Patients

## ICD-9-CM code 785.5X Population

**Septic Shock patients have a longer length of stay and a higher cost than other patients within 785.59**

# Modification to Septic Shock Coding

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- Create unique code to identify septic shock  
*785.52, septic shock*
- Use additional code (995.92) to identify severe sepsis
- Remove term “septic” from 785.59, *other shock without mention of trauma* & 998.0, *postoperative shock*
- Add “excludes septic shock (785.52)” from 998.0, *postoperative shock*
- Add notation to 995.92 to code also “septic shock” (785.52)

# Modification to SIRS Codes

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- Sepsis should be indexed to 995.91, as it is defined as SIRS due to infection without organ failure
  - Code also 038.x
- 995.92 should include link to the new Septic Shock code, as Septic Shock is a subset of Severe Sepsis
  - Modification will ensure adoption and proper use
  - Without these modifications, valuable data on mortality, morbidity, and utilization will be lost

## Modification on SIRS Codes (Cont.)

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- Include the following organ dysfunction examples under 995.92
  - Respiratory failure (518.81)
  - Acute renal failure (584)
  - Hepatic failure (573.9)
  - Septic shock (785.52)
- Delete heart failure under 995.92, as this is related to Septic Shock (785.52)

# Conclusion

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- Septic shock has distinct characteristics that support the creation of a unique code (785.52)
- Septic shock should be linked to severe sepsis
- Modification of current SIRS coding will better represent the clinical presentation of the sepsis syndrome
  - 995.51, *sepsis*
  - Modification to “code also” list in 995.92



# Deficiencies of 1991 Consensus Conference

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- Limitations inherent in these definitions:
  - Incomplete agreement as to what defines “Systemic Response”
    - Inflammation only?
  - Organ/System failures not defined
    - Except hypotension (SBP <90 mmHg or >40 mmHg decline from baseline; need for vasopressor support)

"Dear SIRS, I do not like you"

*Jean Louis Vincent*



# 2001 Sepsis Definitions Conference

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- Current definitions will remain unchanged
- However, will accept the uncertainty of definitions
- SIRS expanded to signs and symptoms
  - Chills
  - Alteration in temperature
  - Tachypnea
  - Change in mental status
  - Tachycardia
  - Altered WBC, Bandemia
  - Thrombocytopenia
  - Decreased perfusion: mottling, poor capillary refill
  - Increased blood sugar
  - Petichiae/Purpura

# 2001 Sepsis Definitions Conference

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- **PIRO** staging system proposed
  - **P**redisposition: Genetics, Chronic illness
  - **I**nsult: Infection, Injury, Ischemia
  - **R**esponse: Physiologic, Mediators, Markers
  - **O**rgan Dysfunction: Outcome, Organ dysfunction